

Listing of Claims:

1. (Previously Presented) Mobile antenna system comprising:

a plurality of multilayered structures including microstrip antenna elements and feed lines for combining and guiding a received signal

a plurality of electronic modules configured to amplify, phase modify, frequency convert and route the received signal;

a plurality of vertical transitions configured to pass of the electromagnetic energy between the layered structures from different levels;

rotary joint including a rotatable part and a static part for passing the received signal and rotating at least a portion of the mobile antenna system;

sensors detecting the spatial movement of the system;

2. (Previously Presented) Mobile antenna system according to claim 1, including a first layered structure, forming the first level, which comprises the microstrip antenna elements.

3. (Previously Presented) Mobile antenna system according to claim 2, including microstrip antenna elements placed in a cavity.

4. (Previously Presented) Mobile antenna system according to claim 1, including microstrip antenna elements which are dual-port.

5. (Previously Presented) Mobile antenna system according to claim 1, including microstrip antenna elements which are probe fed.

6. (Previously Presented) Mobile antenna system according to claim 5, including microstrip antenna elements, which are capacitive probe fed.

7. (Previously Presented) Mobile antenna system according to claim 1, including microstrip antenna elements fed through a slot.

8. (Previously Presented) Mobile antenna system according to claim 1, including microstrip antenna elements which are tilted to an observation angle.

9. (Previously Presented) Mobile antenna system according to claim 1, including microstrip antenna elements covered with dielectric layer, which can act as impedance matching for low elevation tracking.

10. (Previously Presented) Mobile antenna system according to claim 9, including a dielectric layer carrying the antenna elements.

11. (Previously Presented) Mobile antenna system according to claim 1, including microstrip antenna elements placed in a lattice formed from the peaks of isosceles triangles.

12. (Previously Presented) Mobile antenna system according to claim 1, including controls for electronic tracking in one plane perpendicular to the rows formed by one of the sides of triangles forming a lattice.

13. (Previously Presented) Mobile antenna system according to claim 12, including antenna elements placed in the rows, perpendicular to an electronic tracking plane, at about an optimal distance regarding the effective utilization of an antenna aperture and feeding line density.

14. (Previously Presented) Mobile antenna system according to claim 1, including microstrip antenna elements placed in conjunction with mechanical supports.

15. (Previously Presented) Mobile antenna system according to claim 1, including a first layered structure having feed lines, for sequentially feeding several antenna elements from the same row.

16. (Previously Presented) Mobile antenna system according to claim 1, including a first layered structure containing feed lines, feeding in sequence and in parallel several antenna elements from the same row.

17. (Previously Presented) Mobile antenna system according to claim 1, including a first layered structure comprising feeding lines, which feed in sequence and in parallel several antenna elements from neighbouring rows providing about a constant phase difference between them.

18. (Previously Presented) Mobile antenna system according to claim 1, including levels

which are formed by more than one layered structure, so as to form a plurality of united leveled modules.

19. (Previously Presented) Mobile antenna system according to claim 18, including leveled modules, may be tiltable to the direction of observation.

20. (Previously Presented) Mobile antenna system according to claim 1, including a first layered structure which is formed by vertically placed layers.

21. (Previously Presented) Mobile antenna system according to claim 1, including a first layered structure, having a low noise amplifier.

22. (Previously Presented) Mobile antenna system according to claim 21, including next layered structures having feedlines, combining groups from a first level and from the same row in parallel.

23. (Previously Presented) Mobile antenna system according to claim 22, wherein the next layered structures also contain amplifiers.

24. (Previously Presented) Mobile antenna system according to claim 23, including a final layered structure containing phase control devices.

25. (Previously Presented) Mobile antenna system according to claim 24, including final

layered structure having amplitude control devices.

26. (Previously Presented) Mobile antenna system according to claim 24, having integrated circuits configured as phase control devices.

27. (Previously Presented) Mobile antenna system according to claim 24, including discrete components configured as phase control devices.

28. (Previously Presented) Mobile antenna system according to claim 1, including a final layered structure containing feed lines combining different rows.

29. (Previously Presented) Mobile antenna system according to claim 1, having a final layered structure which contains plurality of digital control units for controlling amplitude and phase control units.

30. (Previously Presented) Mobile antenna system according to claim 1, having feed lines in the layered structures formed from microstrip lines.

31. (Previously Presented) Mobile antenna system according to claim 1, having a portion of the feed lines in the layered structures formed from strip lines.

32. (Previously Presented) Mobile antenna system according to claim 1, having at least some of the layered structures being multilayer printed circuit boards.

33. (Previously Presented) Mobile antenna system according to claim 1, having at least some of the layered structures being modules containing one or more levels, coupled from the next level of layered structure.

34. (Previously Presented) Mobile antenna system according to claim 1, including a connection between the feed lines from the separated levels provided by a plurality of vertical RF transitions.

35. (Previously Presented) Mobile antenna system according to claim 34, including vertical RF transitions which are surface mount coaxial elements.

36. (Previously Presented) Mobile antenna system according to claim 34, including vertical RF transitions formed from surface mount stripline elements.

37. (Previously Presented) Mobile antenna system according to claim 34, having vertical RF transitions which also form supporting mechanical structures.

38. (Previously Presented) Mobile antenna system according to claim 1, having one side of the layered structures covered with a coating configured to absorb electromagnetic energy.

39. (Previously Presented) Mobile antenna system according to claim 1, having RF outputs from the layered structure connected through coaxial cables to a separate combiner.

40. (Previously Presented) Mobile antenna system according to claim 39, wherein the combiner is connected with the input a frequency converter.

41. (Previously Presented) Mobile antenna system according to claim 1, having an electromagnetic shield covering portions of the layered structures.

42. (Previously Presented) Mobile antenna system according to claim 41, where the electromagnetic shield has an electromagnetic absorptive coating on the inner side.

43. (Previously Presented) Mobile antenna system according to claim 41, wherein electromagnetic shield is structurally configured to perform carrying functions.

44. (Previously Presented) Mobile antenna system according to claim 41, wherein the cover is mounted to the static part through rotary joint (18).

45. (Previously Presented) Mobile antenna system according to claim 41, wherein the electromagnetic shield rotated with movement from a motor.

46. (Previously Presented) Mobile antenna system according to claim 45, wherein the electromagnetic shield rotates in response to movement of a gear configured at the periphery of the electromagnetic shield.

47. (Previously Presented) Mobile antenna system according to claim 1, wherein rotation is provided using a belt gear.

48. (Previously Presented) Mobile antenna system according to claim 41, including a cover of the antenna system having a radiotransparent part (1).

49. (Previously Presented) Mobile antenna system according to claim 48, wherein the radiotransparent part has impedance matching properties for lower elevation tracking.

50. (Previously Presented) Mobile antenna system according to claim 1, having a satellite signal reading and recognition unit.